ABSTRACT

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A high power density and high capacity primary or secondary electrochemical generator in which at least one electrode (1,2) is composed of an electrically active solid material, said electrode having a mesoporous texture forming a bicontinuous junction of large specific surface area with the electrolyte. The specific morphology of the electro-active material permits high rates of ion insertion in the solid while allowing for rapid ion transport in electrolyte present in the porous space of the electrode. Specific methods for preparation of said electrode are disclosed, in particular the control of the electrode morphology by use of surfactant assemblies exerting a templating effect during the chemical synthesis of said electro-active material.

(FIG 1)